

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	The Impact of Socioeconomic and Risk Factors on Cardiovascular Disease and Type II Diabetes in Australia: Comparison of Results from Longitudinal and Cross-Sectional Designs
<b>AUTHORS</b>	Li, Jinjing; Kinfu, Yohannes

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Kimberlee Gauvreau Harvard School of Public Health United States
<b>REVIEW RETURNED</b>	15-Nov-2015

<b>GENERAL COMMENTS</b>	<p>The analytical approach is clearly described and seems appropriate. Comparisons of the results of various models is informative.</p> <p>Were the subjects analyzed selected to be nationally representative, or were weighting factors applied? After exclusion criteria were applied, was the sample still representative?</p> <p>Table 1. I assume these are means for the continuous variables? This should be stated in a footnote.</p> <p>What is the correlation reported in the second paragraph on page 9? Is this estimated from the model or some other way?</p> <p>Probably the most serious limitation is that the outcomes are self-reported, but the authors address this in the discussion.</p>
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<b>REVIEWER</b>	Michèle Baumann University of Luxembourg Research Unit INSIDE Institut Health & Behaviour
<b>REVIEW RETURNED</b>	16-Nov-2015

<b>GENERAL COMMENTS</b>	<p>This article is a very interesting scientific paper and very comprehensive.</p> <p>All information content of this manuscript is relevant. But the sections Data source and Analytical approach can be reduced;</p> <p>No file have been uploaded</p>
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<b>REVIEWER</b>	Dr Jayantha Dissanayake PhD Victoria University, Melbourne, Australia
<b>REVIEW RETURNED</b>	28-Dec-2015

<b>GENERAL COMMENTS</b>	<p>This paper is a very good paper and gives novel methodical input for the body of knowledge. However in order to accept this paper there are number of major revisions and minor revisions to be done by the authors.</p> <p>Major revisions:</p> <ol style="list-style-type: none"> <li>1. It is better to structure this manuscript in the following order; Introduction, Methods, Results, Discussion and Conclusion for the clarity of the readers.</li> <li>2. In page 3 Method section line 33-44 reads as a literature review. This para reads better in the introduction section.</li> <li>3. In page 3 lines 45 – 53 and page 4 lines 8-9, reads like problem statement and justification. Therefore this section needs to be in the introduction section followed by literature review para.</li> <li>4. In the method section it is better to present only methods and to justify the quality of the data set with some evidence from previous publications those who used this data set.</li> <li>5. In the result and discussion section, instead of combining both result and discussion together, the result should be presented separately from discussion. At the moment this section is very confusing to the reader.</li> <li>6. The analysis section needs to be reviewed by the biostatistician before this paper is accepted</li> <li>7. In this review the word “exercise” and physical activity” has been used alternatively. The definition of structured exercise and physical activity has different definitions. Therefore for the purpose of consistency better to use only “physical activity” or “exercise” with a proper definition at the beginning of the manuscript.</li> <li>8. The article does not have the summary section after abstract as per the journal guideline as mentioned below</li> </ol> <p>Article summary' section consisting of the heading: 'Strengths and limitations of this study', and containing up to five short bullet points, no longer than one sentence each, that relate specifically to the methods of the study reported. They should not include the results of the study and should be placed after the abstract.</p> <p>Minor revisions:</p> <ol style="list-style-type: none"> <li>1. Page 3 line 40-41 sentences not clear "On the other hand.....which makes it to make nationwide?</li> <li>2. Page 6 line 31 -32. Compared to table 1 the numbers are incorrect when adding 3632.</li> <li>3. Page 3 line 46 Reference needed</li> <li>4. The references are not consistent. In text reference Page 2 line 13 no separators. Name of the journal is not abbreviated in the reference list. Journal names for ref no 17 and 18 are in lower case.</li> </ol>
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	<p>9. It is better to use following references.</p> <ul style="list-style-type: none"> <li>• Dassanayake, Jayantha and Gurrin, Lyle and Payne, Warren and Sundararajan, Vijaya and Dharmage, Shyamali C (2011) Is country of birth a risk factor for acute hospitalization for cardiovascular disease in Victoria, Australia? Asia-Pacific Journal of Public Health, 23 (3). pp. 280-287.</li> <li>• Are Australian immigrants at a risk of being physically inactive? Jayantha Dassanayake<sup>134</sup>, Shyamali C Dharmage, Lyle Gurrin, Vijaya Sundararajan and Warren R Payne. International Journal of Behavioral Nutrition and Physical Activity 2011, 8:53</li> </ul> <p>10. Need a latest reference for page 10, 25 and 26: "The total annual direct cost of overweight .....in 2005 was \$21billion.</p>
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**VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1

Reviewer Name: Kimberlee Gauvreau

Institution and Country: Harvard School of Public Health, United States.

Please leave your comments for the authors below

Reviewer 1 Comment 1: The analytical approach is clearly described and seems appropriate. Comparisons of the results of various models is informative.

Response:

We thank the reviewer for the comment.

Reviewer 1 Comment 2: Were the subjects analyzed selected to be nationally representative, or were weighting factors applied? After exclusion criteria were applied, was the sample still representative?

Response:

The HILDA data has associated sampling weights and all analysis is based on weighted data. We have also now included a reference (see page 8 paragraph 3, reference number 33) showing that our prevalence estimates from HILDA are similar to those from the Australian National Health Survey, which supports the view that our data is representative of the situation in the country.

Reviewer 1 Comment 3: Table 1. I assume these are means for the continuous variables? This should be stated in a footnote.

Response:

A footnote has been added.

Reviewer 1 Comment 4: What is the correlation reported in the second paragraph on page 9? Is this estimated from the model or some other way?

Response:

Yes it is from the model. To make it more clear we have now rephrased the relevant sentence as shown on last paragraph of page 10. We have also reproduced the sentence below for reference.

“The correlation coefficient between the error terms of the two disease equations is positive and statistically significant (coefficient 0.27, p-value 0.01), which means that those who developed either of the conditions are more likely to develop the other condition as well.”

Reviewer 1 Comment 5: Probably the most serious limitation is that the outcomes are self-reported, but the authors address this in the discussion.

Response:

As with the reviewer we agree this has been addressed.

Reviewer: 2

Reviewer Name: Michèle BAUMANN

Institution and Country: University of Luxembourg, Research Unit INSIDE Institute Health & Behaviour, Luxembourg.

Please leave your comments for the authors below

Reviewer 2 Comment 1: This article is a very interesting scientific paper and very comprehensive. All information content of this manuscript is relevant.

Response:

We thank the reviewer.

Reviewer 2 Comment 2: The sections Data source and Analytical approach can be reduced.

Response:

We have shortened the mentioned section. Please also see our response number 5.

Reviewer: 3

Reviewer Name: Dr Jayantha Dissanayake PhD Institution and Country: Victoria University, Melbourne, Australia

Please leave your comments for the authors below

This paper is a very good paper and gives novel methodical input for the body of knowledge. However in order to accept this paper there are number of major revisions and minor revisions to be done by the authors.

Major revisions:

Reviewer 3 Comment 1: It is better to structure this manuscript in the following order; Introduction, Methods, Results, Discussion and Conclusion for the clarity of the readers.

Response:

We feel the current structure is adequate for the purpose, and in fact not very different from what is being proposed. We also note that the structure of the paper is within the journal's guideline and a number of papers published on the journal follow a similar structure as ours.

Reviewer 3 Comment 2: In page 3 Method section line 33-44 reads as a literature review. This para reads better in the introduction section.

Response: This comment is similar to editorial comment # 5. Hence, as we have indicated earlier we have moved the paragraph to the introduction section.

Reviewer 3 Comment 3: In page 3 lines 45 – 53 and page 4 lines 8-9, reads like problem statement and justification. Therefore this section needs to be in the introduction section followed by literature review para.

Response: We feel the indicated section belongs to where it is. However, we have modified the relevant sentences to address the concern. Please see the first paragraph under data sources.

Reviewer 3 Comment 4: In the method section it is better to present only methods and to justify the quality of the data set with some evidence from previous publications those who used this data set.

Response: We have now added additional references (see reference 24-27 as well as reference 33).

Reviewer 3 Comment 5: In the result and discussion section, instead of combining both result and discussion together, the result should be presented separately from discussion. At the moment this section is very confusing to the reader.

Response: Please see response number 14.

Reviewer 3 Comment 6: The analysis section needs to be reviewed by the biostatistician before this paper is accepted

Reviewer 3 Comment 7: In this review the word “exercise” and physical activity” has been used alternatively. The definition of structured exercise and physical activity has different definitions. Therefore for the purpose of consistency better to use only “physical activity” or “exercise” with a proper definition at the beginning of the manuscript.

Response: Done. All relevant terminologies have now been changed to ‘physical activity’.

Reviewer 3 Comment 8: The article does not have the summary section after abstract as per the journal guideline as mentioned below:

Article summary' section consisting of the heading: 'Strengths and limitations of this study', and containing up to five short bullet points, no longer than one sentence each, that relate specifically to the methods of the study reported. They should not include the results of the study and should be placed after the abstract.

Response: As we have indicated in our response to editorial comment 2, a summary section has been added to the manuscript.

Minor revisions:

Reviewer 3 minor comments # 1: Page 3 line 40-41 sentences not clear "On the other hand.....which makes it to make nationwide?

Response: The paper is now professionally edited, and we feel all editorial concerns are addressed.

Reviewer 3 minor comments # 2: Page 6 line 31 -32. Compared to table 1 the numbers are incorrect when adding 3632.

Response: Thank you for pointing out the typo. The total indicated in Table 1 has now been corrected. This will make the figure in Table 1 consistent with what is in the text and in the other tables.

Reviewer 3 minor comments # 3: Page 3 line 46 Reference needed

Response: A reference has been added. See reference number 23.

Reviewer 3 minor comments # 4: The references are not consistent. In text reference Page 2 line 13 no separators. Name of the journal is not abbreviated in the reference list. Journal names for ref no 17 and 18 are in lower case.

Response: Corrections made.

Reviewer 3 minor comments # 5: It is better to use following references.

- Dassanayake, Jayantha and Gurrin, Lyle and Payne, Warren and Sundararajan, Vijaya and Dharmage, Shyamali C (2011) Is country of birth a risk factor for acute hospitalization for cardiovascular disease in Victoria, Australia? Asia-Pacific Journal of Public Health, 23 (3). pp. 280-287.
- Jayantha Dassanayake<sup>134</sup>, Shyamali C Dharmage, Lyle Gurrin, Vijaya Sundararajan and Warren R Payne. Are Australian immigrants at a risk of being physically inactive? International Journal of Behavioral Nutrition and Physical Activity 2011, 8:53

Response: Suggested references have been added. See reference number 41 and 42.

Reviewer 3 minor comments # 6: Need a latest reference for page 10, 25 and 26: "The total annual direct cost of overweight .....in 2005 was \$21billion.

Response: A reference has been added. See reference number 43.

### VERSION 2 – REVIEW

<b>REVIEWER</b>	Dr Jayantha Dassanayake Victoria University, Melbourne, Australia
<b>REVIEW RETURNED</b>	25-Feb-2016

<b>GENERAL COMMENTS</b>	I am happy to inform that the authors have been successfully respond to my comments and now ready to accept.
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